

RTC POLARSTAR COVER PLATE FAMILY

PEP ecopassport®

Product Environmental Profile



Registration number:	ABBG-00503-V01.01-EN	Drafting rules:	PCR-ed4-EN-2021 09 06
Contact information:	Pia Denninghoff, pia.denninghoff@de.abb.com	Supplemented by:	PSR 0005-ed3.1-EN-2023 12 08
Verifier accreditation number:	VH08	Information and reference documents:	www.pep-ecopassport.org
Date of issue:	May-26	Validity period:	5 years
Independent verification of the declaration and data in compliance with ISO 14025: 2006			
Internal:	☐	External:	☒
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (Ddomain)			
PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022 The components of the present PEP may not be compared with components from any other program.			
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"			





ABB Purpose & Embedding Sustainability

ABB is committed to continually promoting and embedding sustainability across its operations and value chain, aspiring to become a role model for others to follow. With its ABB Purpose, ABB is focusing on reducing harmful emissions, preserving natural resources and championing ethical and humane behavior.

The content of this PEP cannot be compared with the content based on another program/database.

Scan QR code for more information

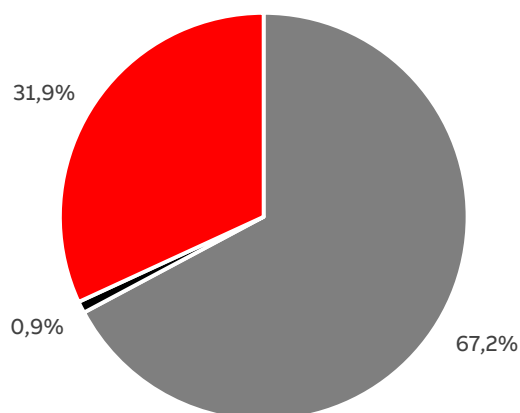


General information

Reference product	One cover plate for Room Temperature Controller (2CKA001710A4193) and its primary packaging
Description of the product	Cover plate for Room Temperature Controller (2CKA001710A4193). The main function of the reference product is to protect people for 20 years against direct contact with live parts of the electrical socket
Functional unit	Protect people for 20 years against direct contact with live parts of the electrical socket. The reference service life of the product is 20 years.
Other products covered	The remaining products covered by the PEP are presented in the table "General characteristics of all variants of products covered by the PEP".
Manufacturing address	ABB AG BUSCH-JAEGER Freisenbergstr. 2 58513 Lüdenscheid GERMANY



Constituent Materials



■ Plastics 19,17 g ■ Metals 0,27 g ■ Others 9,09 g

Total weight of reference product and packaging

28,5

g

Plastics as % of weight		Metals as % of weight		Others as % of weight	
Name and CAS number	Weight%	Name and CAS number	Weight%	Name and CAS number	Weight%
PC	60,1	Low alloyed steel	0,9	Cardboard	31,9
LDPE foil	5,6				
PA6	1,5				

RoHS and REACH compatability and other information about the products materials (i.e. halogen free, recyclability).



Additional Information

Manufacturing	The production of reference product (2CKA001710A4193) occurs at the ABB AG factory located in Aue, Germany. The final product is assembled and packaged at the ABB AG factory in Lüdenscheid, which serves as the last logistic platform for the reference product.
Distribution	The distribution stage involves transporting the reference product from the last logistic platform of ABB AG to its installation site. This transport scenario is estimated based on the concentration of the market for the reference product group, utilizing sales data for the products within that group.
Installation	During installation, the disposal of packaging was considered.
Use	No energy consumption, no maintenance operations needed.
End of life	The end-of-life scenario for the reference product is created according to the recommendations given in the PEP PCR-ed4-EN-2021 09 06 document.
Benefits and loads beyond the system boundaries	Benefits and loads beyond the system boundaries (Module D) have been considered.



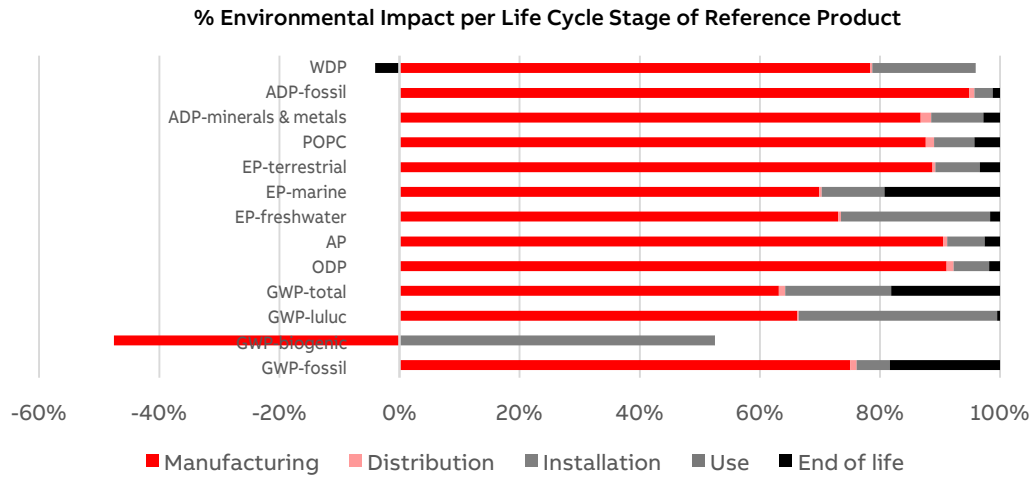
Environmental Impacts

Reference lifetime	20 years
Product category	Other equipment family in accordance with: - PEP PCR-ed4-EN-2021 09 06 - PEP PSR 0005-ed3.1-EN-2023 12 08
Installation elements	No installation materials are required in the life cycle of the product.
Use scenario	No material and energy consumption occur during the use stage. No maintenance phase is planned.
Geographical representativeness	Europe
Technological representativeness	The data on materials and processes are representative of the production of 2CKA001710A4193 and other products in the RTC Polarstar Cover Plate homogeneous product family for 2025.
Software and database used	SimaPro 9.6.0.1 & Ecoinvent 3.10

Energy model used

Manufacturing	A specific ABB AG (Busch-Jaeger) energy mix has been used.
Installation	Non-applicable
Use	Non-applicable
End of life	The energy-related processes used for the inputs of the end-of-life stage are those included in the ecoinvent datasets selected for the analysis.

Common base of mandatory indicators



Environmental impact indicators

Indicator		Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
GWP	Total	kg CO2 eq.	1,29E-01	8,14E-02	1,35E-03	2,28E-02	0,00E+00	2,34E-02	-9,66E-04
	Fossil	kg CO2 eq.	1,27E-01	9,55E-02	1,35E-03	7,05E-03	0,00E+00	2,34E-02	-1,31E-02
	Biogenic	kg CO2 eq.	1,47E-03	-1,42E-02	2,26E-07	1,57E-02	0,00E+00	3,91E-06	1,21E-02
	Luluc	kg CO2 eq.	1,34E-04	8,90E-05	3,08E-07	4,44E-05	0,00E+00	6,83E-07	-4,14E-05
ODP		kg CFC-11 eq.	2,32E-09	2,12E-09	2,75E-11	1,37E-10	0,00E+00	4,27E-11	-4,77E-10
AP		H+ eq.	3,30E-04	2,99E-04	2,23E-06	2,05E-05	0,00E+00	8,50E-06	-4,89E-05
EP	Freshwater	kg P eq.	1,23E-05	9,01E-06	6,51E-08	3,06E-06	0,00E+00	2,04E-07	-6,57E-06
	Marine	kg N eq.	1,14E-04	7,93E-05	4,70E-07	1,19E-05	0,00E+00	2,18E-05	-1,36E-05
	Terrestrial	mol N eq.	9,70E-04	8,60E-04	5,05E-06	7,14E-05	0,00E+00	3,29E-05	-1,26E-04
POCP		kg NMVOC eq.	2,73E-04	2,39E-04	3,81E-06	1,83E-05	0,00E+00	1,17E-05	-4,40E-05
ADP	Minerals & metals	kg SB eq.	2,27E-07	1,97E-07	3,98E-09	1,97E-08	0,00E+00	6,37E-09	-3,07E-08
	Fossil	MJ	2,30E+00	2,19E+00	1,86E-02	7,02E-02	0,00E+00	2,88E-02	-2,61E-01
WDP		m³ eq. depr.	1,39E-02	1,18E-02	5,24E-05	2,60E-03	0,00E+00	-6,09E-04	-4,60E-03

Resource use indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
PERE	MJ	6,44E-01	6,31E-01	1,86E-04	1,21E-02	0,00E+00	6,37E-04	-1,82E-01
PERM	MJ	3,08E-01	3,08E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,19E-01
PERT	MJ	9,52E-01	9,39E-01	1,86E-04	1,21E-02	0,00E+00	6,37E-04	-3,00E-01
PENRE	MJ	2,30E+00	2,19E+00	1,86E-02	7,02E-02	0,00E+00	2,88E-02	-2,61E-01
PENRM	MJ	6,45E-01	6,45E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,79E-02
PENRT	MJ	2,95E+00	2,83E+00	1,86E-02	7,02E-02	0,00E+00	2,88E-02	-2,89E-01

Common base of mandatory indicators

Use of secondary materials, water, and energy resources

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	2,51E-03	2,42E-03	1,71E-06	8,95E-05	0,00E+00	-5,15E-06	-1,75E-04

Waste category indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
HWD	kg	1,87E-03	1,20E-03	1,52E-05	2,47E-04	0,00E+00	4,06E-04	-4,77E-04
N-HWD	kg	1,49E-01	8,50E-02	1,75E-04	1,04E-02	0,00E+00	5,33E-02	-2,37E-03
RWD	kg	6,26E-07	4,92E-07	3,49E-09	1,17E-07	0,00E+00	1,31E-08	-7,73E-07

Output flow indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
CfRu	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MfR	kg	8,39E-03	6,34E-05	0,00E+00	8,11E-03	0,00E+00	2,11E-04	0,00E+00
MfER	kg	1,19E-02	1,67E-03	0,00E+00	1,41E-03	0,00E+00	8,79E-03	0,00E+00
EE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Other indicators

Indicator		Unit	Total
Biogenic Carbon	Product	kg of C	0,00E+00
	Packaging	kg of C	3,79E-03

Optional indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
Tot PE	MJ	3,90E+00	3,77E+00	1,87E-02	8,24E-02	0,00E+00	2,95E-02	-5,90E-01
Efp	Dise inc	2,87E-09	2,41E-09	1,06E-10	1,86E-10	0,00E+00	1,71E-10	-4,72E-10
IrHH	kBq U-235 eq	5,99E-03	5,46E-03	1,40E-05	4,60E-04	0,00E+00	5,16E-05	-3,07E-03
ETX FW	CTUe	1,04E+00	8,60E-01	3,83E-03	9,81E-02	0,00E+00	7,76E-02	-8,27E-02
HTX CE	CTUh	2,86E-10	2,44E-10	8,05E-12	1,78E-11	0,00E+00	1,58E-11	-1,69E-10
HTX N-CE	CTUh	5,00E-10	2,87E-10	1,40E-11	9,93E-11	0,00E+00	9,99E-11	-1,03E-10
IrLS	Pt	1,62E+00	1,56E+00	1,47E-03	5,05E-02	0,00E+00	8,43E-03	-1,02E+00

Extrapolation Factors

The LCA calculations were made for all representative products of products' variations groups. Based on LCA results extrapolation factors can be obtained for each individual environmental indicator. Thus, the extrapolation factors are calculated as a simple ratio of the indicator's value of representative product of products' variations groups to the value obtained for the reference product LCIA. The values of extrapolation factors for total impact score, manufacturing, distribution, installation, use and end of life stages and Module D are listed below.

Based on the LCIA calculations, most environmental indicator values for each life cycle phase for each product from product family, can be calculated using the following formula:

$$y = a * x_0$$

Where:

- y is the score of chosen environmental impact category
- a is the extrapolation factor (slope of linear function)
- x_0 is the score of chosen environmental impact category of the reference product

Values of "Secondary materials" for products containing secondary materials, can be calculated using the following formula:

$$y = a * x_0 + b$$

Where:

- y is the score of chosen environmental impact category
- a is the extrapolation factor (slope of linear function)
- x_0 is the score of chosen environmental impact category of the reference product
- b is the extrapolation factor (y-intercept of linear function)

Extrapolation Factors

General characteristics of all product variations covered by the PEP

Variation	Product code	Product type	Material
01	2CKA001710A4190	1794 R-212	Standard PC
	2CKA001710A4191	1794 R-214	
	2CKA001710A4192	1794 R-214-510	
02	2CKA001710A4193	1794 R-914	Reference product Standard PC
03	2CKA001710A4195	1794 R-92-507	Standard PC
	2CKA001710A4196	1794 R-94-507	
	2CKA001710A4197	1794 R-95-507	
04	2CKA001710A4198	1794 R-81	Standard PC
	2CKA001710A4199	1794 R-82	
	2CKA001710A4201	1794 R-84	
	2CKA001710A4202	1794 R-84-500	
05	2CKA001710A4200	1794 R-83	Standard PC
	2CKA001710A4204	1794 R-884	
	2CKA001710A4205	1794 R-885	
06	2CKA001710A4203	1794 R-866	Standard PC Stainless steel
07	2CKA001710A4206	1794 R-44M	Recycled PC (93%)
08	2CKA001710A4207	1794 R-44G	Recycled PC (93%)
09	2CKA001710A4208	1794 R-45M	Recycled PC (98%)
10	2CKA006430A0409	1794 MDRT-212	Standard PC
	2CKA006430A0410	1794 MDRT-214	
	2CKA006430A0411	1794 MDRT-214-500	
11	2CKA006430A0412	1794 MDRT-914	Standard PC
	2CKA006430A0413	1794 MDRT-916-510	
	2CKA006430A0414	1794 MDRT-92-507	
	2CKA006430A0415	1794 MDRT-94-507	
	2CKA006430A0416	1794 MDRT-95-507	
12	2CKA006430A0417	1794 MDRT-81	Standard PC
	2CKA006430A0418	1794 MDRT-82	
	2CKA006430A0420	1794 MDRT-84	
	2CKA006430A0421	1794 MDRT-84-500	
13	2CKA006430A0419	1794 MDRT-83	Standard PC
	2CKA006430A0422	1794 MDRT-866	
	2CKA006430A0423	1794 MDRT-884	
	2CKA006430A0424	1794 MDRT-885	
14	2CKA006430A0425	1794 MDRT-44M	Recycled PC (93%)
15	2CKA006430A0426	1794 MDRT-44G	Recycled PC (93%)
16	2CKA006430A0427	1794 MDRT-45M	Recycled PC (98%)

Extrapolation Factors

Values of 'a' extrapolation factors to calculate total environmental impact score

-	VARIATION															
Impact category	02 (ref.)	01	03	04	05	06	07	08	09	10	11	12	13	14	15	16
GWP-total	1.00	0.78	1.02	1.14	1.34	4.56	1.20	0.91	0.98	0.63	0.69	0.85	1.01	0.80	0.60	0.79
GWP-fossil	1.00	0.78	1.02	1.15	1.35	4.57	1.20	0.91	0.98	0.64	0.69	0.86	1.02	0.81	0.60	0.80
GWP-biogenic	1.00	0.86	0.80	1.06	0.85	3.14	0.86	0.86	0.85	0.11	0.14	0.21	0.21	0.13	0.13	0.13
GWP-luluc	1.00	0.92	0.75	1.04	2.40	4.48	2.38	0.74	1.28	0.94	0.96	1.01	1.97	2.12	0.92	2.11
ODP	1.00	0.81	1.01	1.14	1.19	3.32	0.94	0.81	0.82	0.74	0.80	0.95	1.02	0.77	0.67	0.75
AP	1.00	0.77	0.90	0.98	1.56	7.45	1.59	0.73	0.95	0.71	0.74	0.83	1.26	1.20	0.66	1.19
EP-freshwater	1.00	0.95	0.76	1.03	2.51	13.01	2.67	0.94	1.52	0.89	0.90	0.92	1.93	2.17	0.90	2.17
EP-marine	1.00	0.77	0.91	1.03	1.21	4.46	1.31	0.88	0.98	0.75	0.79	0.91	1.10	1.00	0.76	0.99
EP-terrestrial	1.00	0.78	0.90	0.99	1.22	5.20	1.25	0.74	0.86	0.61	0.64	0.73	0.96	0.85	0.56	0.84
POCP	1.00	0.78	0.90	1.00	1.27	6.02	1.30	0.77	0.89	0.73	0.76	0.86	1.11	1.01	0.70	1.00
ADP-minerals	1.00	0.96	0.92	1.05	5.00	38.43	6.28	2.26	3.62	1.09	1.11	1.14	3.49	4.06	1.11	4.06
ADP-fossils	1.00	0.78	1.03	1.15	1.29	3.29	0.86	0.64	0.67	0.65	0.71	0.89	1.01	0.69	0.53	0.67
WDP	1.00	0.75	0.92	1.17	1.53	6.54	-1.14	-1.71	-1.57	1.27	1.34	1.53	1.86	1.51	1.10	1.50
PERE	1.00	0.82	0.92	1.09	1.10	4.60	1.20	1.08	1.10	0.55	0.60	0.73	0.80	0.71	0.63	0.71
PERM	1.00	0.72	0.65	0.78	0.44	0.49	0.83	0.54	0.54	0.49	0.50	0.52	0.52	0.51	0.51	0.52
PERT	1.00	0.79	0.83	0.99	0.89	3.27	1.08	0.90	0.92	0.53	0.57	0.66	0.70	0.65	0.59	0.65
PENRE	1.00	0.78	1.03	1.15	1.29	3.29	0.86	0.64	0.67	0.65	0.71	0.89	1.01	0.69	0.53	0.67
PENRM	1.00	0.76	1.07	1.16	1.11	0.87	0.52	0.52	0.48	0.52	0.58	0.77	0.77	0.36	0.36	0.34
PENRT	1.00	0.77	1.04	1.16	1.25	2.76	0.79	0.62	0.63	0.62	0.68	0.86	0.96	0.62	0.49	0.60
SM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NRSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FW	1.00	0.76	1.06	1.12	1.28	6.11	1.22	1.09	1.12	0.63	0.69	0.89	0.96	0.87	0.78	0.87
HWD	1.00	0.90	0.89	1.06	2.20	152.3	2.35	1.07	1.50	0.75	0.77	0.84	1.58	1.75	0.82	1.75
NHWD	1.00	0.79	1.03	1.12	1.21	7.03	1.44	1.34	1.37	0.67	0.72	0.87	0.93	0.90	0.83	0.89
RWD	1.00	0.96	0.78	1.02	3.45	14.55	3.64	0.99	1.89	1.41	1.42	1.44	2.99	3.37	1.43	3.38
CRU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MFR	1.00	1.00	0.66	1.00	0.66	5.86	0.76	0.76	0.76	0.62	0.62	0.62	0.62	0.62	0.62	0.62
MER	1.00	0.73	1.03	1.16	1.08	0.88	1.42	1.42	1.41	0.61	0.67	0.85	0.85	0.80	0.80	0.79
EE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C prod	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C pack	1.00	1.00	0.62	1.00	0.62	0.62	0.76	0.76	0.76	0.48	0.48	0.48	0.48	0.48	0.48	0.48

Extrapolation Factors

Values of 'a' extrapolation factors to calculate environmental impact score of manufacturing stage

-	VARIATION															
Impact category	02 (ref.)	01	03	04	05	06	07	08	09	10	11	12	13	14	15	16
GWP-total	1.00	0.74	1.10	1.17	1.58	6.70	1.19	0.74	0.85	0.65	0.71	0.91	1.16	0.85	0.53	0.83
GWP-fossil	1.00	0.78	1.03	1.15	1.43	5.76	1.12	0.74	0.83	0.63	0.69	0.85	1.07	0.80	0.53	0.79
GWP-biogenic	1.00	1.02	0.60	0.99	0.59	0.38	0.75	0.75	0.75	0.53	0.52	0.52	0.52	0.53	0.53	0.53
GWP-luluc	1.00	0.88	0.81	1.06	3.31	6.30	3.20	0.72	1.55	1.17	1.19	1.27	2.71	2.94	1.13	2.93
ODP	1.00	0.80	1.03	1.15	1.23	3.50	0.93	0.79	0.80	0.76	0.82	0.98	1.06	0.78	0.67	0.76
AP	1.00	0.76	0.92	0.97	1.64	8.01	1.64	0.70	0.95	0.71	0.75	0.84	1.31	1.24	0.65	1.24
EP-freshwater	1.00	0.94	0.79	1.03	3.19	17.03	3.35	0.99	1.79	1.01	1.02	1.05	2.44	2.76	1.02	2.76
EP-marine	1.00	0.74	0.91	0.99	1.30	5.99	1.30	0.69	0.83	0.64	0.68	0.78	1.06	0.94	0.58	0.93
EP-terrestrial	1.00	0.76	0.92	0.98	1.27	5.66	1.28	0.71	0.83	0.60	0.63	0.72	0.98	0.86	0.53	0.85
POCP	1.00	0.77	0.91	0.99	1.33	6.62	1.33	0.72	0.86	0.74	0.77	0.87	1.15	1.04	0.69	1.04
ADP-minerals	1.00	0.97	0.95	1.05	5.64	43.89	7.09	2.45	4.02	1.16	1.17	1.20	3.91	4.57	1.17	4.57
ADP-fossils	1.00	0.77	1.05	1.16	1.32	3.35	0.85	0.62	0.65	0.65	0.72	0.90	1.02	0.69	0.52	0.67
WDP	1.00	0.69	1.00	1.21	1.72	7.15	-1.42	-2.09	-1.92	1.40	1.49	1.72	2.11	1.70	1.21	1.68
PERE	1.00	0.82	0.92	1.09	1.11	4.65	1.20	1.08	1.11	0.55	0.60	0.73	0.80	0.72	0.63	0.72
PERM	1.00	0.72	0.65	0.78	0.44	0.49	0.83	0.54	0.54	0.49	0.50	0.52	0.52	0.51	0.51	0.52
PERT	1.00	0.78	0.84	0.99	0.89	3.29	1.08	0.90	0.92	0.53	0.57	0.66	0.71	0.65	0.59	0.65
PENRE	1.00	0.77	1.05	1.16	1.32	3.35	0.85	0.62	0.65	0.65	0.72	0.90	1.02	0.69	0.52	0.67
PENRM	1.00	0.76	1.07	1.16	1.11	0.87	0.52	0.52	0.48	0.52	0.58	0.77	0.77	0.36	0.36	0.34
PENRT	1.00	0.77	1.05	1.16	1.27	2.79	0.78	0.60	0.61	0.62	0.69	0.87	0.97	0.61	0.48	0.60
SM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NRSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FW	1.00	0.75	1.07	1.13	1.30	6.24	1.24	1.10	1.14	0.63	0.70	0.90	0.97	0.88	0.79	0.88
HWD	1.00	0.92	0.89	1.03	2.88	231.3	2.97	0.98	1.65	0.84	0.86	0.89	2.05	2.34	0.88	2.34
NHWD	1.00	0.80	1.04	1.10	1.27	11.8	1.39	1.22	1.28	0.70	0.74	0.87	0.96	0.95	0.83	0.95
RWD	1.00	0.95	0.79	1.03	4.19	17.10	4.41	1.04	2.18	1.60	1.61	1.63	3.60	4.09	1.62	4.10
CRU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MFR	1.00	1.00	1.00	1.00	1.00	389.8	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MER	1.00	0.47	1.04	1.13	0.78	2.54	0.87	0.87	0.86	0.36	0.39	0.49	0.49	0.46	0.46	0.44
EE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C prod	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C pack	1.00	1.00	0.62	1.00	0.62	0.62	0.76	0.76	0.76	0.48	0.48	0.48	0.48	0.48	0.48	0.48

Extrapolation Factors

Values of 'a' extrapolation factors to calculate environmental impact score of distribution stage

-	VARIATION															
Impact category	02 (ref.)	01	03	04	05	06	07	08	09	10	11	12	13	14	15	16
GWP-total	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
GWP-fossil	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
GWP-biogenic	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
GWP-luluc	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
ODP	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
AP	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
EP-freshwater	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
EP-marine	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
EP-terrestrial	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
POCP	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
ADP-minerals	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
ADP-fossils	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
WDP	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
PERE	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
PERM	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
PERT	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
PENRE	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
PENRM	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
PENRT	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
SM	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
RSF	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
NRSF	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
FW	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
HWD	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
NHWD	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
RWD	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
CRU	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
MFR	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
MER	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
EE	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
Biogenic C prod	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77
Biogenic C pack	1.00	0.83	0.92	1.12	1.00	1.47	1.31	1.30	1.29	0.63	0.67	0.81	0.81	0.77	0.77	0.77

Extrapolation Factors

Values of 'a' extrapolation factors to calculate environmental impact score of installation stage

-	VARIATION															
Impact category	02 (ref.)	01	03	04	05	06	07	08	09	10	11	12	13	14	15	16
GWP-total	1.00	1.00	0.65	1.00	0.65	0.67	0.75	0.75	0.75	0.66	0.66	0.66	0.66	0.66	0.66	0.66
GWP-fossil	1.00	1.00	0.74	1.00	0.74	0.75	0.72	0.72	0.72	1.03	1.03	1.03	1.03	1.03	1.03	1.03
GWP-biogenic	1.00	1.00	0.62	1.00	0.62	0.63	0.76	0.76	0.76	0.49	0.49	0.49	0.49	0.49	0.49	0.49
GWP-luluc	1.00	1.00	0.62	1.00	0.62	0.62	0.76	0.76	0.76	0.50	0.50	0.50	0.50	0.50	0.50	0.50
ODP	1.00	1.00	0.63	1.00	0.63	0.63	0.75	0.75	0.75	0.58	0.58	0.58	0.58	0.58	0.58	0.58
AP	1.00	1.00	0.64	1.00	0.64	0.65	0.75	0.75	0.75	0.73	0.73	0.73	0.73	0.73	0.73	0.73
EP-freshwater	1.00	1.00	0.63	1.00	0.63	0.64	0.75	0.75	0.75	0.56	0.56	0.56	0.56	0.56	0.56	0.56
EP-marine	1.00	1.00	0.63	1.00	0.63	0.65	0.75	0.75	0.75	1.86	1.86	1.86	1.86	1.86	1.86	1.86
EP-terrestrial	1.00	1.00	0.64	1.00	0.64	0.64	0.75	0.75	0.75	0.76	0.76	0.76	0.76	0.76	0.76	0.76
POCP	1.00	1.00	0.65	1.00	0.65	0.65	0.75	0.75	0.75	0.79	0.79	0.79	0.79	0.79	0.79	0.79
ADP-minerals	1.00	1.00	0.67	1.00	0.67	0.67	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
ADP-fossils	1.00	1.00	0.64	1.00	0.64	0.65	0.75	0.75	0.75	0.64	0.64	0.64	0.64	0.64	0.64	0.64
WDP	1.00	1.00	0.62	1.00	0.62	0.62	0.76	0.76	0.76	0.54	0.54	0.54	0.54	0.54	0.54	0.54
PERE	1.00	1.00	0.64	1.00	0.64	0.64	0.75	0.75	0.75	0.60	0.60	0.60	0.60	0.60	0.60	0.60
PERM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PERT	1.00	1.00	0.64	1.00	0.64	0.64	0.75	0.75	0.75	0.60	0.60	0.60	0.60	0.60	0.60	0.60
PENRE	1.00	1.00	0.64	1.00	0.64	0.65	0.75	0.75	0.75	0.64	0.64	0.64	0.64	0.64	0.64	0.64
PENRM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PENRT	1.00	1.00	0.64	1.00	0.64	0.65	0.75	0.75	0.75	0.64	0.64	0.64	0.64	0.64	0.64	0.64
SM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NRSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FW	1.00	1.00	0.62	1.00	0.62	0.62	0.76	0.76	0.76	0.57	0.57	0.57	0.57	0.57	0.57	0.57
HWD	1.00	1.00	0.66	1.00	0.66	0.68	0.74	0.74	0.74	0.80	0.80	0.80	0.80	0.80	0.80	0.80
NHWD	1.00	1.00	0.73	1.00	0.73	0.79	0.72	0.72	0.72	1.06	1.06	1.06	1.06	1.06	1.06	1.06
RWD	1.00	1.00	0.67	1.00	0.67	0.67	0.74	0.74	0.74	0.77	0.77	0.77	0.77	0.77	0.77	0.77
CRU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MFR	1.00	1.00	0.65	1.00	0.65	0.65	0.75	0.75	0.75	0.64	0.64	0.64	0.64	0.64	0.64	0.64
MER	1.00	1.00	0.78	1.00	0.78	0.78	0.70	0.70	0.70	1.28	1.28	1.28	1.28	1.28	1.28	1.28
EE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C prod	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C pack	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Extrapolation Factors

Values of 'a' extrapolation factors to calculate environmental impact score of end-of-life stage

-	VARIATION															
Impact category	02 (ref.)	01	03	04	05	06	07	08	09	10	11	12	13	14	15	16
GWP-total	1.00	0.73	1.07	1.19	1.19	1.06	1.64	1.64	1.63	0.55	0.62	0.85	0.84	0.78	0.78	0.78
GWP-fossil	1.00	0.73	1.07	1.19	1.19	1.06	1.64	1.64	1.63	0.55	0.62	0.85	0.84	0.78	0.78	0.78
GWP-biogenic	1.00	0.83	1.04	1.12	1.12	33.41	1.41	1.41	1.40	0.35	0.40	0.54	0.54	0.50	0.50	0.50
GWP-luluc	1.00	0.79	1.05	1.15	1.16	19.62	1.52	1.51	1.50	0.43	0.49	0.67	0.67	0.62	0.62	0.62
ODP	1.00	0.74	1.07	1.18	1.19	4.09	1.63	1.62	1.61	0.53	0.60	0.82	0.81	0.76	0.75	0.75
AP	1.00	0.75	1.07	1.18	1.18	5.74	1.61	1.61	1.60	0.52	0.59	0.80	0.80	0.74	0.74	0.74
EP-freshwater	1.00	0.80	1.05	1.14	1.14	24.61	1.48	1.47	1.46	0.40	0.46	0.62	0.62	0.58	0.57	0.57
EP-marine	1.00	0.73	1.07	1.19	1.19	1.02	1.64	1.64	1.63	0.55	0.62	0.85	0.84	0.78	0.78	0.78
EP-terrestrial	1.00	0.74	1.07	1.18	1.19	3.60	1.63	1.62	1.61	0.53	0.60	0.82	0.82	0.76	0.75	0.75
POCP	1.00	0.74	1.07	1.18	1.19	3.60	1.63	1.62	1.61	0.53	0.60	0.82	0.82	0.76	0.75	0.75
ADP-minerals	1.00	0.76	1.06	1.17	1.18	9.63	1.59	1.58	1.57	0.49	0.56	0.77	0.76	0.71	0.70	0.70
ADP-fossils	1.00	0.75	1.07	1.18	1.19	6.06	1.62	1.61	1.59	0.52	0.59	0.80	0.80	0.74	0.73	0.73
WDP	1.00	0.71	1.08	1.20	1.24	-7.40	1.73	1.70	1.69	0.60	0.68	0.93	0.93	0.87	0.85	0.85
PERE	1.00	0.83	1.04	1.12	1.12	34.48	1.41	1.40	1.40	0.34	0.39	0.53	0.53	0.49	0.49	0.49
PERM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PERT	1.00	0.83	1.04	1.12	1.12	34.48	1.41	1.40	1.40	0.34	0.39	0.53	0.53	0.49	0.49	0.49
PENRE	1.00	0.75	1.07	1.18	1.19	6.06	1.62	1.61	1.59	0.52	0.59	0.80	0.80	0.74	0.73	0.73
PENRM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PENRT	1.00	0.75	1.07	1.18	1.19	6.06	1.62	1.61	1.59	0.52	0.59	0.80	0.80	0.74	0.73	0.73
SM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NRSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FW	1.00	0.64	1.09	1.25	1.34	-30.96	1.96	1.87	1.86	0.74	0.85	1.15	1.18	1.10	1.05	1.05
HWD	1.00	0.78	1.06	1.15	1.16	16.39	1.53	1.53	1.52	0.45	0.52	0.70	0.70	0.64	0.64	0.64
NHWD	1.00	0.73	1.07	1.19	1.20	0.64	1.66	1.64	1.63	0.55	0.63	0.85	0.85	0.79	0.78	0.78
RWD	1.00	0.87	1.03	1.09	1.10	46.58	1.32	1.32	1.31	0.27	0.31	0.42	0.42	0.38	0.38	0.38
CRU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MFR	1.00	1.00	1.00	1.00	1.00	90.77	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MER	1.00	0.73	1.07	1.19	1.19	0.58	1.65	1.65	1.63	0.55	0.63	0.85	0.84	0.78	0.78	0.78
EE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C prod	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C pack	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Extrapolation Factors

Values of 'a' extrapolation factors to calculate environmental impact score of Module D

-	VARIATION															
Impact category	02 (ref.)	01	03	04	05	06	07	08	09	10	11	12	13	14	15	16
GWP-total	1.00	0.97	4.86	2.37	5.72	51.42	2.64	2.64	5.80	8.13	8.69	10.32	10.26	9.25	9.25	9.25
GWP-fossil	1.00	0.86	0.92	1.10	0.99	4.37	0.89	0.89	1.12	1.06	1.10	1.22	1.22	1.14	1.14	1.14
GWP-biogenic	1.00	1.00	0.61	1.00	0.61	0.61	0.75	0.75	0.75	0.50	0.50	0.50	0.50	0.50	0.50	0.50
GWP-luluc	1.00	0.94	0.73	1.04	0.76	1.01	0.93	0.93	0.96	1.18	1.20	1.25	1.25	1.23	1.23	1.23
ODP	1.00	0.88	0.96	1.08	1.01	1.26	0.93	0.93	1.06	1.09	1.12	1.22	1.22	1.17	1.17	1.17
AP	1.00	0.90	0.84	1.07	0.89	4.52	0.94	0.94	1.05	1.29	1.32	1.41	1.40	1.36	1.36	1.36
EP-freshwater	1.00	0.88	0.84	1.08	0.89	3.89	1.15	1.15	1.15	0.97	1.01	1.10	1.10	1.07	1.07	1.07
EP-marine	1.00	0.92	0.79	1.05	0.82	3.75	0.85	0.85	0.96	1.00	1.02	1.08	1.08	1.04	1.04	1.04
EP-terrestrial	1.00	0.92	0.79	1.05	0.83	4.26	0.82	0.82	0.95	1.03	1.05	1.12	1.12	1.08	1.08	1.08
POCP	1.00	0.91	0.82	1.06	0.86	4.14	0.93	0.93	1.02	1.15	1.18	1.26	1.26	1.22	1.22	1.22
ADP-minerals	1.00	0.93	0.79	1.05	0.82	11.65	1.00	1.00	1.02	2.95	2.97	3.03	3.02	3.00	3.00	3.00
ADP-fossils	1.00	0.86	0.94	1.10	1.01	2.60	0.74	0.74	1.06	1.15	1.19	1.30	1.30	1.21	1.21	1.21
WDP	1.00	0.94	0.88	1.04	0.90	2.60	0.70	0.70	0.84	1.14	1.16	1.20	1.20	1.17	1.17	1.17
PERE	1.00	0.97	0.66	1.02	0.68	0.86	0.81	0.81	0.83	0.59	0.60	0.62	0.62	0.61	0.61	0.61
PERM	1.00	1.00	0.62	1.00	0.62	0.62	0.76	0.76	0.76	0.48	0.48	0.48	0.48	0.48	0.48	0.48
PERT	1.00	0.98	0.65	1.01	0.65	0.76	0.79	0.79	0.80	0.55	0.55	0.57	0.57	0.56	0.56	0.56
PENRE	1.00	0.86	0.94	1.10	1.01	2.60	0.74	0.74	1.06	1.15	1.19	1.30	1.30	1.21	1.21	1.21
PENRM	1.00	1.00	1.00	1.00	1.00	1.00	-0.76	-0.76	0.21	0.51	0.51	0.51	0.51	0.34	0.34	0.34
PENRT	1.00	0.87	0.95	1.09	1.00	2.45	0.60	0.60	0.98	1.09	1.12	1.23	1.22	1.13	1.13	1.13
SM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NRSF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FW	1.00	0.90	0.90	1.07	0.94	2.20	0.94	0.94	1.02	1.13	1.16	1.24	1.24	1.20	1.20	1.20
HWD	1.00	0.95	0.84	1.03	0.86	32.81	1.01	1.01	1.00	0.89	0.91	0.95	0.95	0.94	0.94	0.94
NHWD	1.00	0.93	0.80	1.05	0.83	13.85	1.03	1.03	1.03	3.97	3.99	4.05	4.04	4.03	4.03	4.03
RWD	1.00	0.81	0.95	1.13	1.04	1.09	1.38	1.38	1.37	1.09	1.14	1.30	1.29	1.25	1.25	1.25
CRU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MFR	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MER	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C prod	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Biogenic C pack	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Extrapolation Factors

Values of 'b' extrapolation factors to calculate environmental impact score for products containing secondary materials - total.

	Variation					
Impact category	07	08	09	14	15	16
Secondary materials	1.90E-02	1.90E-02	1.98E-02	7.67E-03	7.67E-03	7.92E-03

The remaining values are established as zero.

Glossary

Environmental impact Indicators			
GWP-total	Global Warming Potential total (Climate change)		
GWP-fossil	Global Warming Potential fossil		
GWP-biogenic	Global Warming Potential biogenic		
GWP-luluc	Global Warming Potential land use and land use change		
ODP	Depletion potential of the stratospheric ozone layer		
AP	Acidification potential		
EP-freshwater	Eutrophication potential - freshwater compartment		
EP-marine	Eutrophication potential - fraction of nutrients reachin marine end compartment		
EP-terrestrial	Eutrophication potential - Accumulated Exceedance		
POCP	Tropospheric ozone creation potential		
ADP-m&m	Abiotic Depletion for non-fossil resources potential		
ADP-fossil	Abiotic Depletion for fossil resources potential		
WDP	Water deprivation potential		
Resource indicators			
PENRE	Use of non-renewable primary energy excluding renewable primary energy resources used as raw material		
PENRM	Use of non-renewable primary energy resources used as raw material		
PENRT	Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials		
PERE	Use of renewable primary energy excluding non-renewable primary energy resources used as raw material.		
PERM	Use of renewable primary energy resources used as raw material		
PERT	Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)		
Secondary materials, water and energy resources		Waste category indicators	
SM	Use of secondary materials	HWD	Hazardous waste disposed
RSF	Use of renewable secondary fuels	N-HWD	Non-hazardous waste disposed
NRSF	Use of non-renewable secondary fuels	RWD	Radioactive waste disposed
FW	Net use of fresh water		
Output flow indicators		Optional indicators	
CfRu	Components for re-use	Tot PE	Total use of primary energy during the life cycle
MfR	Materials for recycling		
MfER	Materials for energy recovery	Efp	Emissions of Fine particles
EE	Exported Energy	IrHH	Ionizing radiation, human health
		ETX FW	Ecotoxicity, freshwater
		HTX CE	Human toxicity, carcinogenic effects
		HTX N-CE	Human toxicity, non-carcinogenic effects
		IrLS	Impact related to Land use / soil quality

References

-
- [1] PCR “PEP-PCR-ed4-EN-2022_09_06” - Product Category Rules for Electrical, Electronic and HVAC-R Products (published: 6th September 2022)
 - [2] PSR-0005-ed3.1-EN-2023 12 08 - Electrical switchgear and control gear solutions
 - [3] EN 50693:2019 - Product category rules for life cycle assessments of electronic and electrical products and systems
 - [4] ISO 14040:2006 - Environmental management -Life cycle assessment - Principles and framework
 - [5] ISO 14044:2006 - Environmental management - Life cycle assessment - Requirements and guidelines
 - [6] ecoinvent database version 3.10 (November 2023) - (<https://ecoinvent.org/>)
 - [7] SimaPro Software version 9.6.0.1 - PRé Sustainability
 - [8] UNI EN 15804:2012+A2:2019: Sustainability of constructions - Environmental product declarations (September 2019)